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The Larva of *Acronicta spinigera* Guenee (Noctuidae)[1]

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Abstract.—The mature larva of *Acronicta spinigera* Gn. *(Lepidoptera: Noctuidae) is described. Ulmus american* L. was found to be an acceptable food plant. Ova eclosed in 7 days and the larva reached maturity in 23 days.

Acronicta spinigera Gn. is uncommon in collections and prior to this paper nothing was known of the life history. The species occurs from Canada and Maine to Wisconsin and south to Texas (Forbes, 1954). Smith & Dyar, 1898, and Forbes, 1954, placed *A. spinigera* next to *A. pruni* Harris. Smith & Dyar considered *A. pruni* to be the "nearest ally" to *A. spinigera*. McDunnough, 1938, placed *A. spinigera* next to *A. morula* G. & R. The discovery of the larva corroborates this position.

A. morula larvae (Fig. 2) have dorsal protuberances on the first, fourth, and eighth abdominal segments, whereas *A. spinigera* (Fig. 1) larvae have them on the first and eighth segment, those on the third and fourth segment being only weakly developed. Furthermore, both types of larvae have the vertex of the head reddish-orange in color.

A female of *A. spinigera* was taken at ultra-violet light on 27 June 1977 in the Adirondacks, 6 miles east of Indian Lake, 1820 ft., Hamilton County, New York. Two days later, 12 flattened ova were laid. The larvae eclosed in seven days and were offered *Populus tremuloides* Michx. and *Malus* sp. The first instar larvae initially fed on *Malus*, but did poorly on it and many died. *Populus tremuloides* was rejected and finally *Ulmus americana* L. was offered. The sole remaining larva fed readily on the elm and attained full size in 23 days.

The illustrations that accompany the descriptions of the last larval instar were drawn to scale using the grid system. All scale lines represent 0.5 mm. The terminology and abbreviations follow Godfrey (1972).

General (Fig. 1). Head 4.62 mm wide. Total length 38 mm (fully distended, preserved larva). Abdominal prolegs present on third through sixth segments. Integument clothed with minute, short spines on dorsal two-thirds. Body protuberant dorsally on abdominal segments one and eight, slightly so on four and five. Spiracle A-8 0.36 mm high.

Coloration (living material). General head and body color light gray. Vertex of head reddish orange. Abdomen with a pale orange, broken middorsal line, setal insertions white, spiracles black.

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Fig. 1. *Acronicta spinigera*, Adirondack Mts., New York: photograph of living, ultimate instar larva.

Fig. 2 *Acronicta morula*, Adirondack Mts., New York: photograph of living, ultimate instar larva.

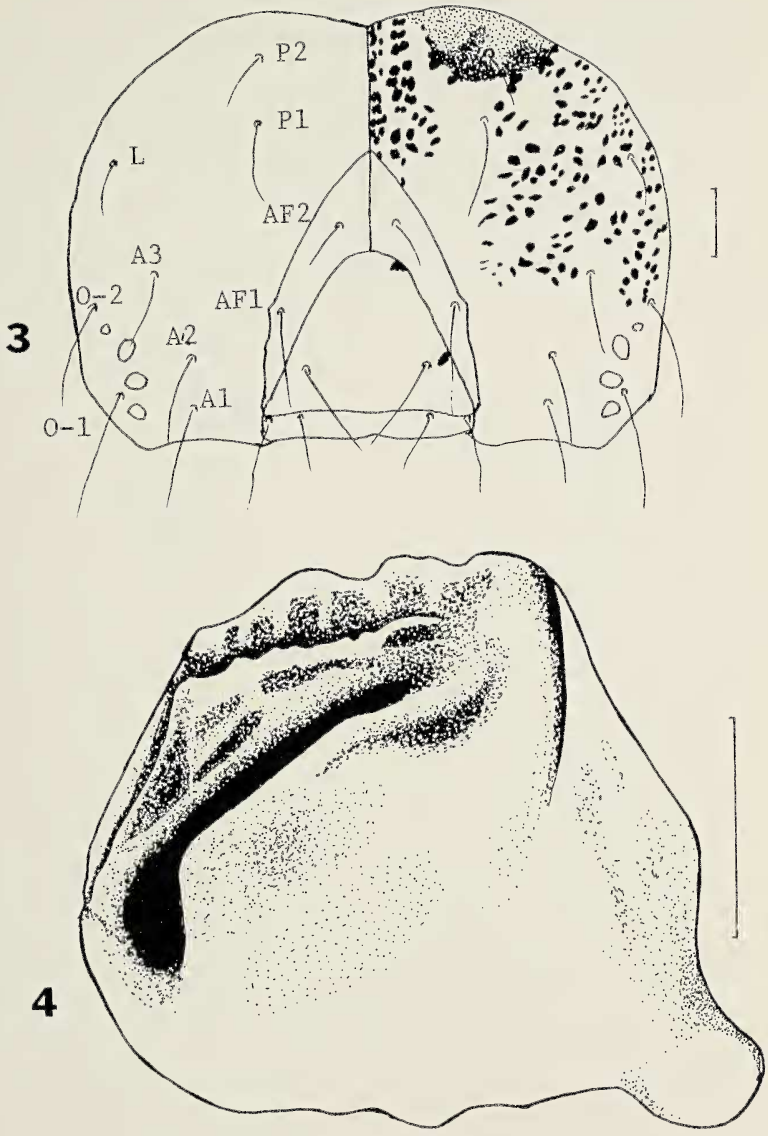
Head (Fig. 3). Epicranial suture 1.83 times height of frons. Second adfrontal seta (Af-2) posterior to apex of frons. Pigmented areas present near apex of frons and between seta F1 and margin of frons. Vertex reddish orange. Upper two-thirds of head capsule with scattered black markings. Ocellar interspaces between Oc1 & Oc2 and Oc2 & Oc3 subequal; Oc3 to Oc4 equal to diameter of Oc3; Oc4 to Oc6 approximately 3x diameter of Oc4; Oc4 to Oc5 approximately 4x diameter of Oc4.

Mouthparts. Hypopharyngeal complex (Fig. 5): spinneret with distal lip surpassing second segment of labial palpus, bare; stipular setae (S) subequal in length to Lps, twice length of seta Lp-1, and equal to seta Lp-2. Distal region of hypopharynx covered with fine spines; proximomedial region without spines; proximolateral region bearing a single row of about 17 spines. Mandible (Fig. 4): with a second ridge parallel to the first and with a deep concavity proximad to second ridge. Several shallow concavities present between first (marginal) and second ridge of teeth and again between second ridge and concavity.

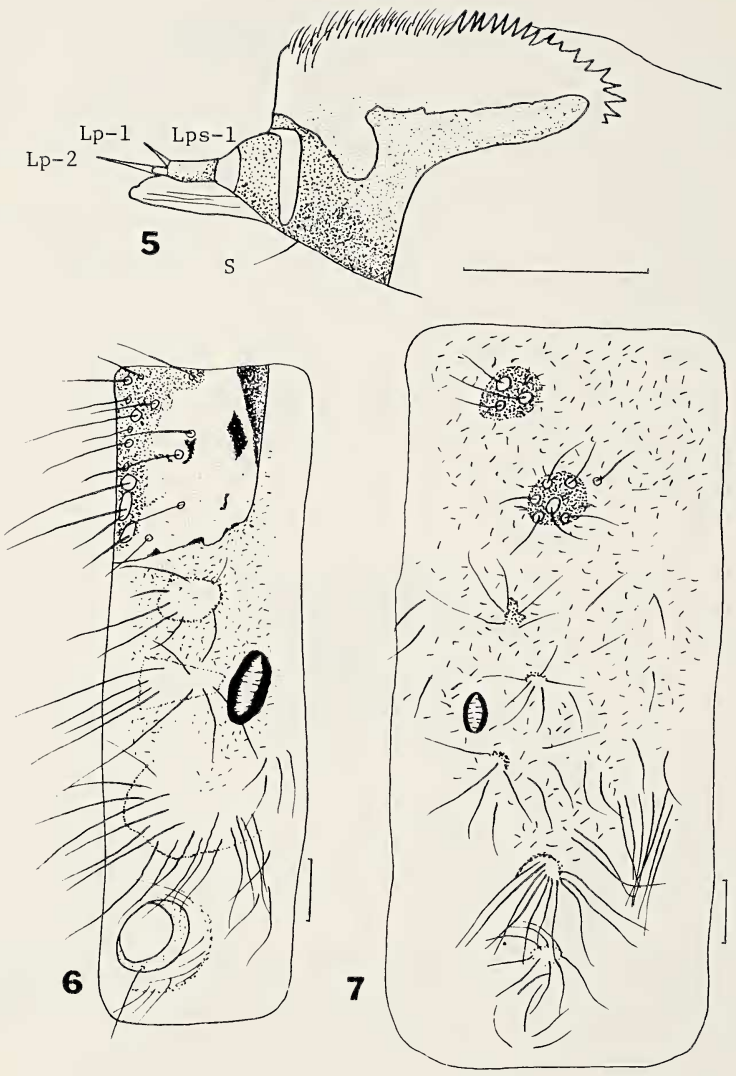
Thoracic segments. Segment T-1 (Fig. 6): numerous secondary setae present, those on shield with insertion on pale pinacula. Prespiracular and remaining setae with insertion on lightly pigmented verrucae. Shield with a dark pigmented posterior margin and a lightly, pigmented anterior margin; with separate isolated patch near posterior margin in middle. Shield, verrucae, and dorsal two-thirds of segment with numerous, minute spines. T2 & T3 with dorsal verrucae with setal insertions in pale patches. Subdorsal and lateral veruccae with setal insertions not differentiated from ground color. Tarsal claws cleft at mid point forming a flat ledge.

Abdominal segments. Ab-1 (Fig. 7): with dorsal protuberance composed of verrucae corresponding to D1 & D2 on both sides of body. Verrucae D1 & D2 heavily pigmented with setal insertions on pale, circular areas. Verruca D1 with 3 setae, D2 with 6 setae, Sd-1 with 5 setae, L-1 with 6 setae and L-2 with 4 or 5 setae. Numerous scattered setae present, especially below spiracular line. Segments three and four slightly protuberant dorsally, eight markedly protuberant. Crochets uniordinal, 23-25 per third abdominal proleg, 23-25 per fourth, 29 per fifth, and 14-15 per sixth.

Material examined: One specimen, 6 miles east of Indian Lake, 1820 ft., lat. 43°45′30″ long. 74°10′14″, Hamilton Co., New York, 26 June 1977, from ovum of female collected, determined and reared by T. L. McCabe.



Figs. 3-4. *Acronicta spinigera*, Adirondack Mts., New York: 3. frontal aspect of head; 4. oral aspect of left mandible.



Figs. 5-7. *Acronicta spinigera*, Adirondack Mts., New York: 5. left aspect of hypopharyngealcomplex; 6. left setal arrangement of prothorax; 7. left setal arrangement of first abdominal segment.

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